

RECOMMENDATION SUMMARY

July 2002

San Francisco Bay Crossings Study



After more than a year of careful study, the Metropolitan Transportation Commission (MTC) is preparing final recommendations for a strategy to not only ease the congestion plaguing various routes across San Francisco Bay but to help deal with a projected 40 percent increase in transbay travel by 2025. Responding to a request by U.S. Senator Dianne Feinstein that a 1991 study be updated, MTC launched the San Francisco Bay Crossings Study in late 2000 and began analyzing the costs, travel impacts and environmental issues associated with a long list of options for three primary transbay corridors: the San Francisco-Oakland, San Mateo-Hayward and Dumbarton Bridge corridors.

Study Team Tackles Tough Questions

The Bay Crossings Study team, which includes staff from MTC and other agencies, is led by a 13-member policy committee (see box on page 6). The team's mission was to balance limited funds with the growing need for congestion relief on the three existing bridges and in BART's transbay tube. This raised a series of critical questions: Should we build a new crossing or try to move more people through existing corridors? Should we concentrate on bridges or tunnels? What combination of enhancements for auto travel and transit is needed? How much should we pay? What will we get for our money? And what's the cost of doing nothing?

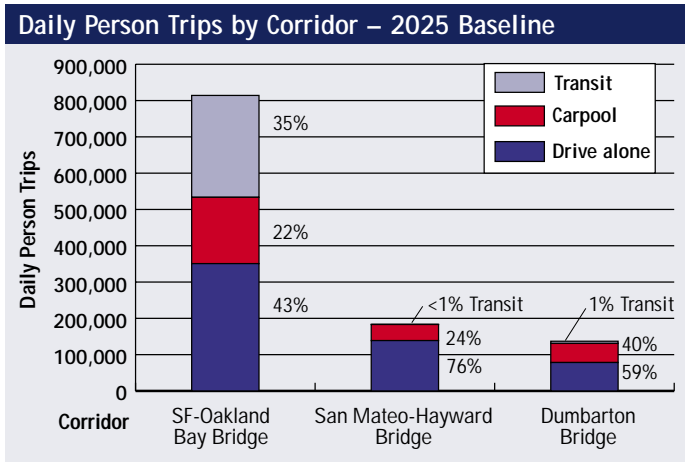
While the policy committee's draft recommendations focus on lower-cost improvements that could start going into place within months — and could be paid for with existing funds or a possible \$1 increase in tolls on state-owned toll bridges — it also recommends further investigation of a new mid-Bay bridge and other big-ticket projects that could take many years to complete and for which no funding sources have yet been identified.

More Transit Options, Carpool Connectivity

The policy committee recommends moving ahead quickly on a wide range of low-cost improvements that will make carpool-

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ing and transit more attractive in all three corridors. These improvements — which would have the lowest environmental impact of all the alternatives considered — include:

- re-establishing express bus service on the San Mateo-Hayward Bridge;
- extending the carpool lane on the northbound Interstate 880 approach to the Bay Bridge;
- speeding carpool traffic through the Bay Bridge toll plaza and metering lights by using pop-up cones to isolate the carpool lanes on the left and right sides;
- creating more loading and unloading zones for casual carpools in San Francisco's South of Market district;
- extending the carpool lane on San Francisco's Second Street approach to the Bay Bridge; and
- extending the FasTrak™ electronic toll collection lanes on approaches to the San Mateo-Hayward and Dumbarton bridges.

Higher Tolls Could Win Voter Support

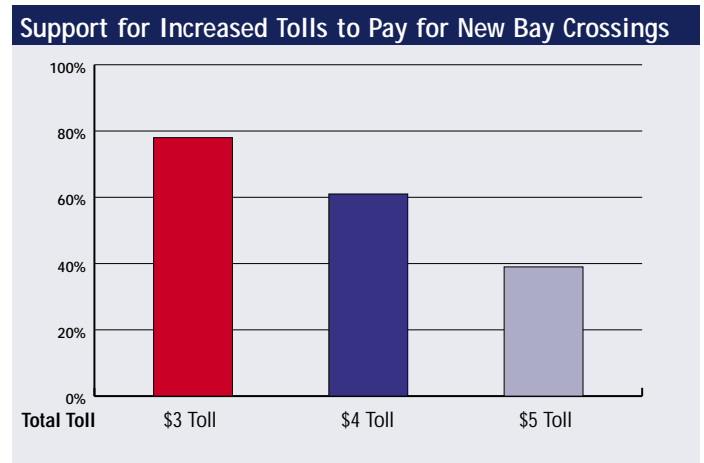
More ambitious improvements will require additional funds. With legislation to authorize a vote on raising bridge tolls likely to be introduced next year, Bay Area voters could hold the key to other near-term improvements recommended by the policy committee. Interestingly, the opinion polling conducted by MTC as part of its public outreach efforts for the Bay Crossings Study shows strong support for raising bridge tolls from \$2 to \$3, with a majority of respondents even expressing support for a \$4 toll (see chart at right). With money from a \$3 bridge toll, the Bay Area could afford to:

- create reversible lanes on the San Mateo-Hayward Bridge, providing an extra lane in the peak direction (3 cents of additional \$1 toll);
- expand express bus service across all three bridges (27 cents);

- rehabilitate the Dumbarton rail bridge and begin commuter rail service (6 cents for basic service);
- make further improvements to the carpool lane system in the bridge corridors (15 cents); and
- put faster-loading, higher-capacity BART cars into service on transbay routes (15 cents).

Longer-Range Options

The short-term improvements recommended by the policy committee will ease many of the existing transbay congestion



problems. But they certainly won't solve them all, much less accommodate the expected increase in transbay travel during the years ahead. So the Bay Crossings Study recommends keeping the door open for some longer-term projects that could go forward if additional funds become available and consensus can be developed.

The policy committee's recommendations for further study include various improvements to the western approaches to and from the Dumbarton Bridge, the addition of new carpool lanes along key bridge and freeway segments, construction of flyover connections to link existing carpool lanes, and boosting the capacity of existing BART stations.

The Bay Crossings Study also urges continued coordination with the California High-Speed Rail Authority — which is moving ahead with plans for a statewide network of 200-mile-per-hour trains — regarding its interests in future rail crossings over or under the Bay as part of a link between the Bay Area and Sacramento.

Other possible long-term projects include construction of a new mid-Bay bridge and widening of the San Mateo-Hayward Bridge to a total of eight lanes. The public has expressed strong sentiments, both pro and con, for a new bridge. To

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Bay Crossings Study Recommendations by Corridor



CORRIDOR

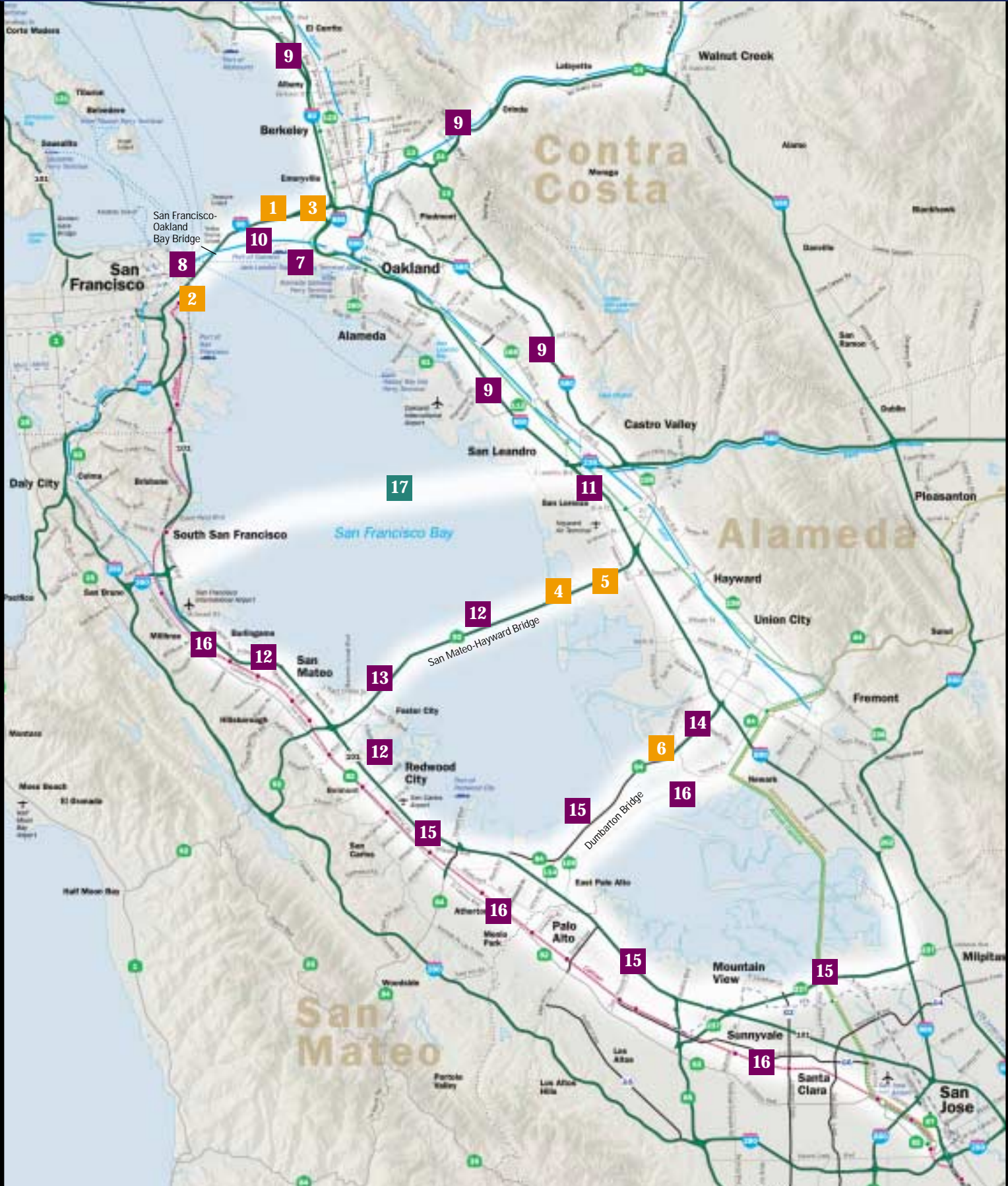
San Francisco-Oakland

New Mid-Bay

San Mateo

Dumbarton

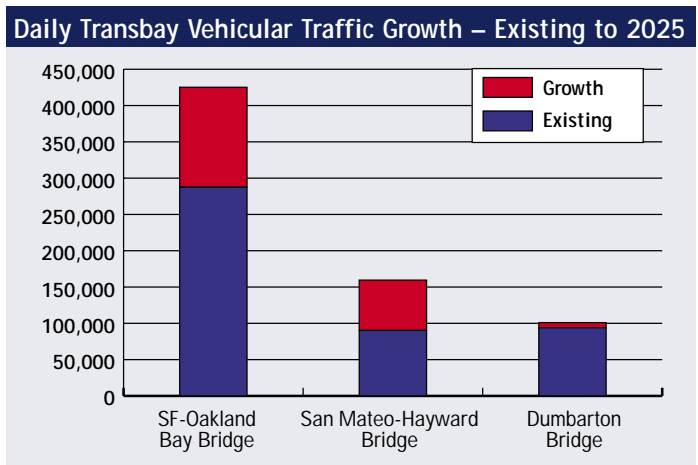
With Existing Funds	With Potential \$1 Toll Increase	Related Follow-up and Further Study
<div><div>1</div>Carpool lane extensions/improvements on Bay Bridge approaches in Oakland (I-880 northbound, isolate left-side and right-side carpool lanes at toll plaza)</div> <div><div>2</div>Carpool improvements/signage on San Francisco city streets (2nd Street, Fremont/Howard streets, Sterling on-ramp)</div> <div><div>3</div>I-80 westbound approach to Maritime off-ramp — truck deceleration lane</div> <div><div>Capital Cost: \$4.2 million</div><div>20-Year Net Operating Cost: \$4.5 million</div></div>	<div><div>7</div>Additional carpool-lane extensions/improvements on Bay Bridge approaches in Oakland (Grand Avenue on-ramp; westbound I-580 left and right sides; I-880 northbound to Market/Adeline)</div> <div><div>8</div>Additional carpool improvements on San Francisco city streets (Bryant and Beale streets, Essex Street on-ramp, Sterling on-ramp)</div> <div><div>9</div>Expanded express bus service (increase to 158 peak-hour trips)</div> <div><div>10</div>BART core capacity enhancements (purchase and operation of 47 new cars)</div> <div><div>Capital Cost: \$416.4 million</div><div>20-Year Net Operating Cost: \$357.4 million</div></div>	<div>Not mapped:</div> <div><div>• Coordinate with High-Speed Rail Authority to serve Bay Area-Sacramento market</div><div>• Additional analysis of BART core-capacity improvements</div><div>• Coordinate with Water Transit Authority on possible new ferry service</div></div>
<div>Not applicable</div>	<div>Not applicable</div>	<div><div>17</div>Add new mid-Bay Bridge (with express bus service) to Blueprint in the next Regional Transportation Plan update</div> <div><div>— Potential capital cost: \$6.7 billion to \$8.2 billion</div><div>— Potential 20-year operating cost: \$700.6 million</div></div> <div><div>• Coordinate with Water Transit Authority on possible new ferry service</div></div>
<div><div>4</div>Re-establish express bus service (2 peak-hour trips in each direction)</div> <div><div>5</div>Extend FasTrak™ approach lane at toll plaza</div> <div><div>Capital Cost: \$4.3 million</div><div>20-Year Net Operating Cost: \$2.0 million*</div></div>	<div><div>11</div>Carpool-lane improvements (Route 92 gap closure between Hesperian and I-880 in Hayward)</div> <div><div>12</div>Expanded express bus service (increase to 10 peak-hour trips, new park-and-ride lot and Route 92 carpool on-ramp at Hesperian)</div> <div><div>13</div>Reversible lanes on high-rise portion of San Mateo Bridge (potentially designate reversible lane for carpools and buses)</div> <div><div>Capital Cost: \$134.5 million</div><div>20-Year Net Operating Cost: \$97.6 million</div></div>	<div>Not mapped:</div> <div><div>• Add San Mateo-Hayward Bridge widening (to 8 lanes) to the Blueprint in the next Regional Transportation Plan update.</div><div><div>— Potential capital cost: \$2.1 billion to \$2.4 billion</div><div>— Potential 20-year operating cost: \$38.5 million</div></div><div><div>• Coordinate with Water Transit Authority on possible new ferry service</div></div></div>
<div><div>6</div>Extend FasTrak™ approach lane at toll plaza</div> <div><div>Capital Cost: \$37,000</div><div>20-Year Net Operating Cost: \$0</div></div>	<div><div>14</div>Carpool-lane improvements (Route 84/I-880 direct carpool flyover ramps in Fremont)</div> <div><div>15</div>Expanded express bus service (increase to 10 peak-hour trips, new park-and-ride lot, and Route 84 carpool on-ramp)</div> <div><div>16</div>Rail service on the Dumbarton rail bridge (seismic upgrade of existing rail bridge and operation of 6 peak-period trains between Union City and the Peninsula)</div> <div><div>Capital Cost: \$186.6 million</div><div>20-Year Net Operating Cost: \$151.9 million</div></div>	<div>Not mapped:</div> <div><div>• Cooperative study of western approach and US 101 corridor by Santa Clara Valley Transportation Authority, San Mateo City/County Association of Governments, and San Mateo Transportation Authority (under way)</div></div>



* Includes 3 years of express bus; remainder to be funded with potential toll increase.

(continued from page 2)

allow further study, the draft recommendations include adding these multibillion dollar projects to the “Blueprint” section of MTC’s next *Regional Transportation Plan*. The Blueprint is a list of projects that typically have been subjected to some planning analysis, but which may not have consensus or funding, and/or which require further analysis.



What Options Were Considered?

The first phase of the Bay Crossings Study sought to identify the widest possible range of improvements in the three main transbay corridors. After reviewing dozens of proposals — including various suggestions for airport-to-airport connections, bridge alignments and freight ferry proposals — the policy committee by late 2001 narrowed to six the list of possible transbay travel improvements, and directed the study team to begin a more thorough analysis of the costs, travel impacts and environmental issues associated with each (see “Key Findings” on page 6). These alternatives included:

1. express bus/carpool lane/operational improvements (all corridors)
2. Bay Bridge corridor rail: a new heavy-rail tunnel from San Francisco to Oakland and/or a new BART crossing with new San Francisco stations
3. expansion of San Mateo-Hayward Bridge capacity with reversible lanes and eventual widening of the bridge to eight lanes
4. new mid-Bay bridge linking Interstate 238 in the East Bay with Interstate 380 north of San Francisco International Airport
5. commuter rail service on a rehabilitated Dumbarton rail bridge
6. improvements to approach roadways linking the Dumbarton Bridge with U.S. 101.

Can the Recommendations Really Help?

Without question. The Bay Crossings Study team expects that if all of the policy committee’s recommendations were implemented, they would result in a roughly 70 percent increase in express bus ridership (to 36,000 daily riders from 21,000 under the Baseline 2025 scenario), a roughly 8,000 daily person-trip increase in carpool activity, and a five- to 10-minute average time savings for carpools at Bay Bridge approaches in San Francisco and the East Bay. Basic commuter service over the renovated Dumbarton rail bridge is expected to attract 3,000 to 4,000 riders each day and to reduce auto traffic on the Dumbarton highway bridge by about 1,000 cars a day.

The long-term options recommended for further study would have a major impact on Bay Area transportation as well. Construction of a new mid-Bay bridge would attract some 86,000 daily vehicle trips and would reduce daily traffic on the San Mateo-Hayward Bridge by about 40,000 vehicles and on the Bay Bridge by 23,000 vehicles. Improvements to the western approaches to the Dumbarton Bridge would allow more efficient use of existing bridge capacity and reduce traffic on local arterials such as University Avenue, Willow Road and the Bayfront Expressway by more than 50 percent.

What About Ferries?

While new ferry services are not part of the Policy Committee’s draft recommendations, the conceptual alternatives considered in the study’s initial phase included both passenger and freight ferries. Now MTC is working cooperatively with the San Francisco Bay Area Water Transit Authority (WTA), which is looking at several options that could expand ferry service in the region. The WTA is scheduled to release a draft Environmental Impact Report and a draft Implementation and Operations Plan in late August, and will hold a series of public meetings this fall to solicit input on various alternatives. The WTA is expected to submit a plan to the state Legislature by the end of December 2002.

Can “Smart Growth” Make a Difference?

Absolutely. MTC is playing a lead role in the Regional Smart Growth effort, which has developed a vision to guide land-use decisions in the years ahead. The Smart Growth scenario is designed to bring jobs and housing closer together, and would focus development largely around transit routes. By 2025, these large-scale changes in land use could cut the number of transbay vehicle trips by as many as 50,000 a day and boost daily transit ridership by 17,000. The Bay Crossings Study Policy Committee supports continued work to develop regional consensus on smart growth.

(continued on page 6)

Additional Toll for Bay Crossing Improvements Requiring More Than \$1	
Alternative/Improvement	All Bridges
New BART tunnel & stations	\$ 4.71 – \$ 6.62
New rail tunnel (2 legs)	\$ 4.61 – \$ 7.21
New rail tunnel (north leg only)	\$ 2.75 – \$ 4.85
San Mateo Bridge widening	\$ 1.32 – \$ 1.50
New mid-Bay bridge	\$ 3.82 – \$ 4.82
Route 84/U.S. 101 connector	\$ 0.41 – \$ 1.14

Did MTC Listen to the Public?

Because the outcome of the Bay Crossings Study will affect the lives of millions of area residents, the study team conducted an extensive outreach effort designed not only to inform the public about the study but to involve people in developing and evaluating the alternatives. To accomplish these goals, the Bay Crossings Study team held seven public meetings during 2001 and 2002, and conducted telephone opinion polls in May 2001 and May 2002 to gather information from a total of 1,850 Bay Area residents.

In terms of overall support, more than 60 percent of poll respondents favored expanding BART and commuter rail service, followed by expanding express bus service. But only

Bay Crossings Policy Committee

These are the public officials who directed the Bay Crossings Study:

Ralph Appezato, Co-Chair MTC Commissioner and Mayor of Alameda	John McLemore MTC Commissioner and Santa Clara City Councilmember
Sue Lempert, Co-Chair MTC Commissioner and Mayor of San Mateo	Dena Mossar Santa Clara Valley Transportation Authority Board Member, Vice-Mayor of Palo Alto
Thomas Blalock BART Board Member	Michael Nevin MTC Commissioner and San Mateo County Supervisor
Mark DeSaulnier MTC Commissioner and Contra Costa County Supervisor	John Rubin MTC Commissioner representing San Francisco
Joseph Freitas, Jr. San Francisco Bay Area Water Transit Authority Board Member	Aaron Peskin San Francisco County Transportation Authority, San Francisco City and County Supervisor
Randell Iwasaki MTC Commissioner representing Caltrans	Pat Piras AC Transit Board Member
Barbara Kaufman MTC Commissioner representing the Bay Conservation and Development Commission	

Key Findings

- Operational strategies like expanded express bus service and an improved carpool lane network feeding the bridges will work, and are relatively inexpensive.
- The BART system will be able to handle demand between now and 2025, but capacity of transbay trains and San Francisco stations will be a concern in the future.
- A new six-lane mid-Bay bridge would reduce congestion for transbay vehicles by the largest amount of any alternative, but public support for added vehicle capacity is weak.
- New rail crossings are expensive, and do not appear to generate the large number of riders that would justify the \$6 billion to \$11 billion investment necessary to build a new rail bridge or tunnel.
- Dumbarton rail service is widely supported, but is not seen as a major factor in reducing congestion on the Dumbarton auto bridge.
- A new Dumbarton approach road providing a more direct connection between the bridge and U.S. 101 to the south would have beneficial effects on local and regional traffic, but raises other community and environmental concerns.

25 to 30 percent were in favor of widening existing bridges or building a new bridge (environmental concerns appear to weigh prominently in people's minds when responding to proposals for new Bay crossings). These poll results concerning priorities for new bridges are not all that surprising when you consider the fact that only 7 to 8 percent of Bay Area residents are regular users of one of the three bridges. A further finding, which may also relate to the bridge usage figure, is general support for higher tolls (in the \$3 to \$4 range) to pay for some of the improvements.

In addition to the public meetings and the opinion polling, the Bay Crossings Study convened four focus groups to get in-depth comment from members of over 70 invited groups, and conducted individual interviews with a diverse cross-section of stakeholders, including business, labor, environmental groups and elected officials throughout the region. Public meetings in July 2002 will provide the public another chance to weigh in. Members of the public can also comment online by visiting the MTC Web site at <www.mtc.ca.gov> and clicking on the link for the Bay Crossings Study. For more information contact project manager Larry Magid, lmagid@mtc.ca.gov, 510.464.7819. ■

Writer: John Goodwin
Graphic Design: Michele Stone



San Francisco Bay Crossings Study

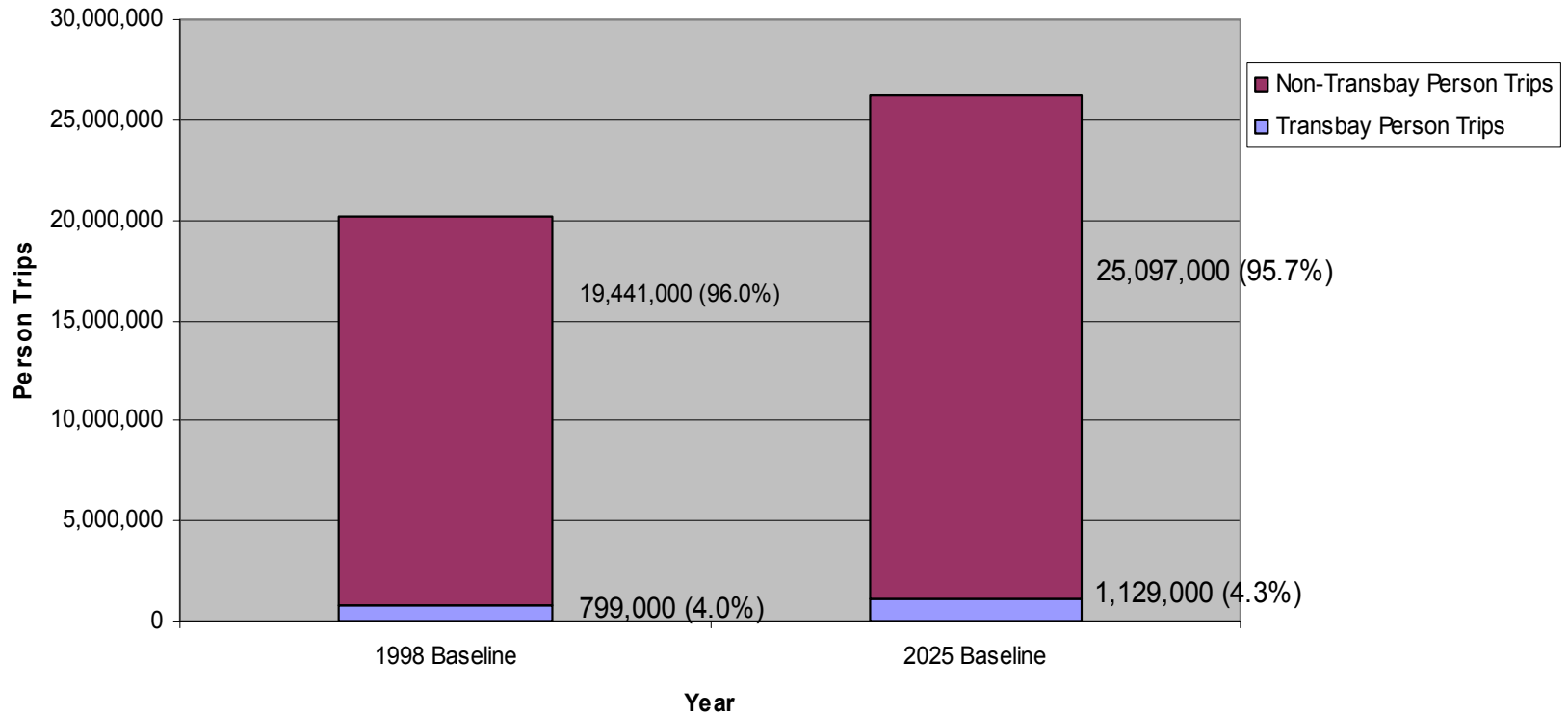
Presentation to California Transportation Commission

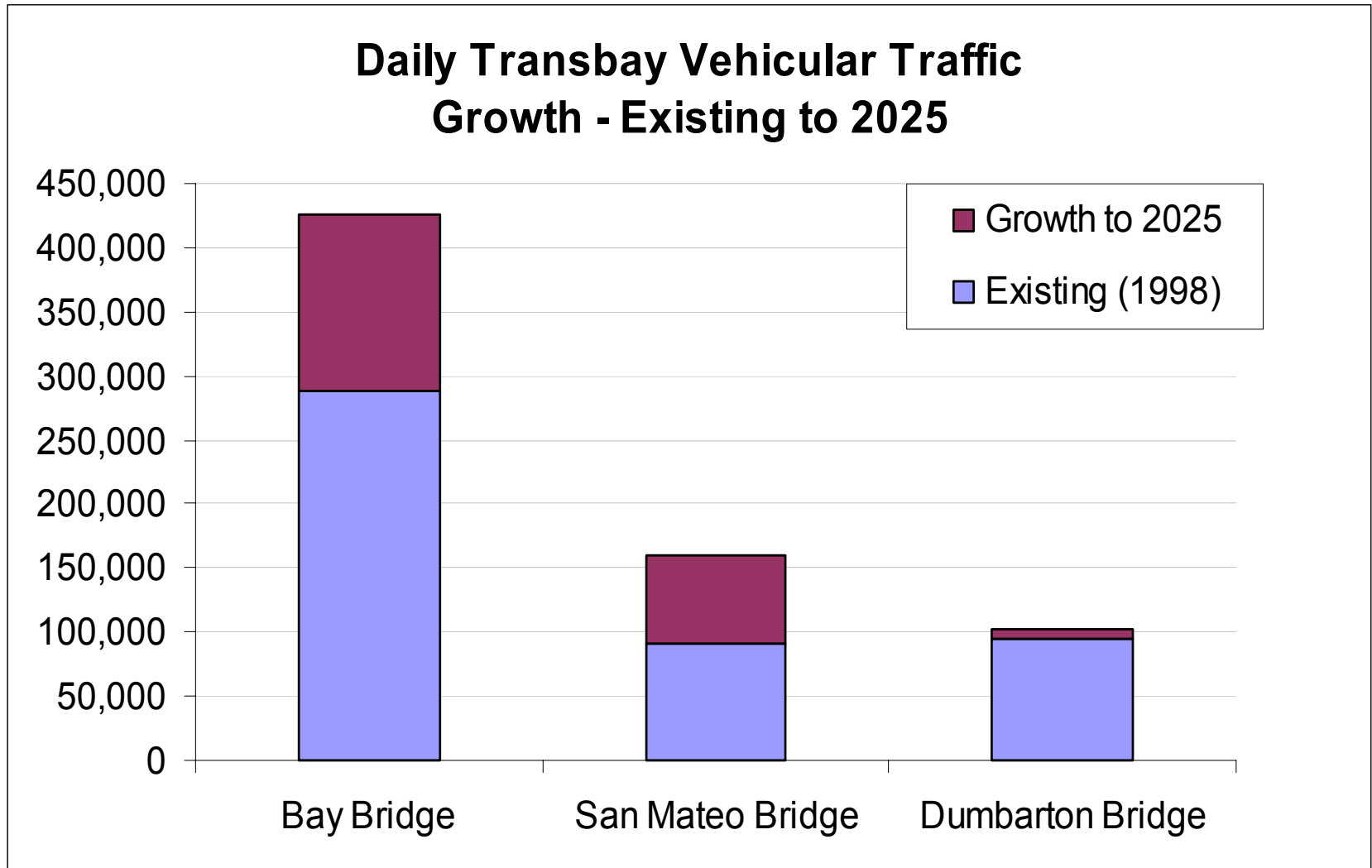
Larry Magid
Metropolitan Transportation Commission

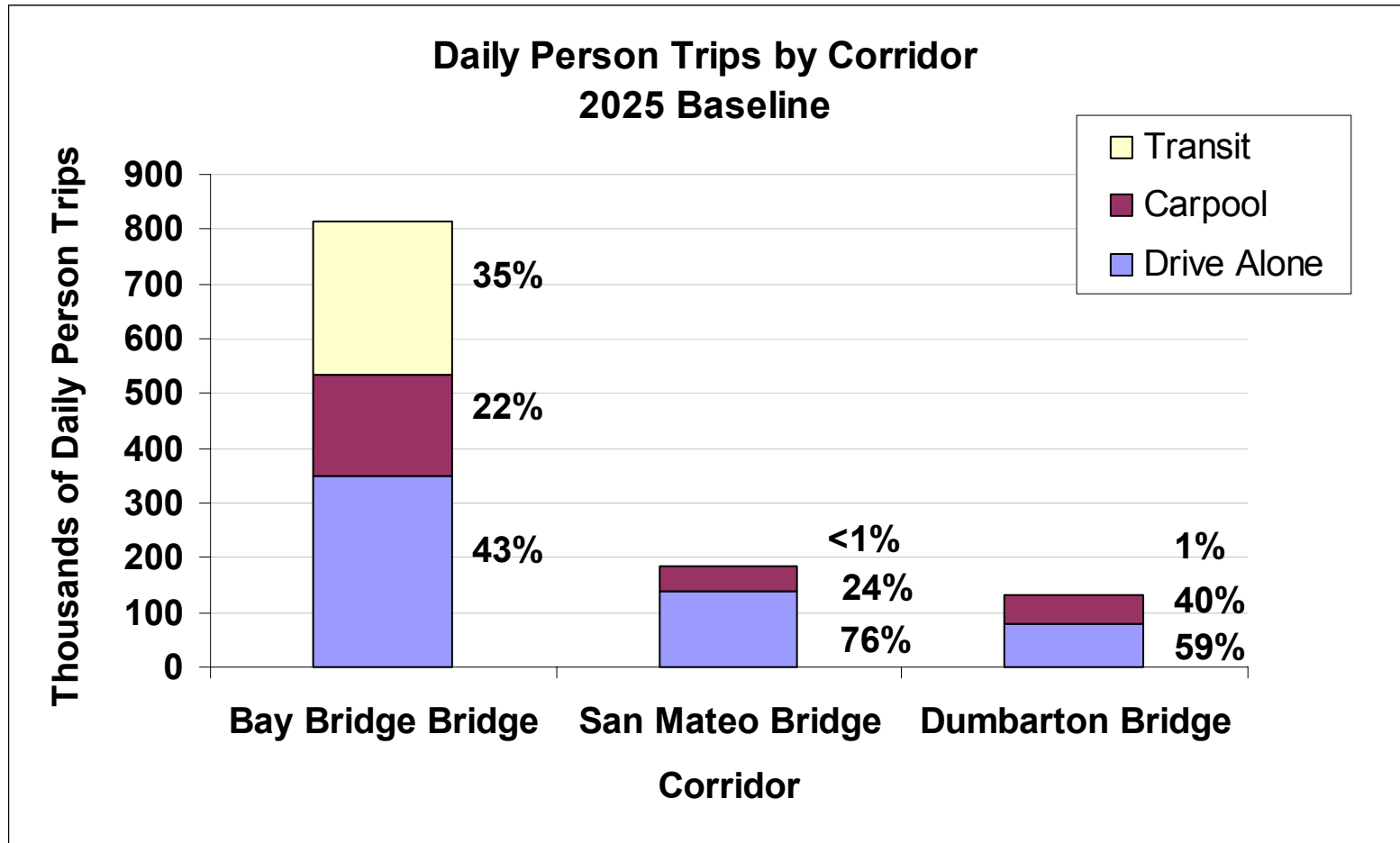
Los Angeles
August 22, 2002



Bay Area Person Trips: 1998 and 2025







- Person Trips Grow 40% - 1998 to 2025
- Transbay Trips are 4% of all Trips and 8% of Work Trips



Final Alternatives

- **Express Bus/Carpool Improvements** in all three corridors
- **Bay Bridge Corridor Rail:** New heavy passenger rail tunnel, new BART transbay crossing with new San Francisco Stations
- **Expand Capacity of Hayward – San Mateo Bridge** with Reversible Lanes and Ultimate Widening
- **New Mid-Bay Bridge** (I-238 to I-380)
- **Dumbarton Rail Bridge Rehabilitation & Commuter Rail Service**
- **Improve Dumbarton Bridge Approach Roadways**



Alt 1 – Operational / Express Bus

Project Description

- New Express Bus service in Bay Bridge, San Mateo and Dumbarton Corridors
- 3-Door BART Cars on Transbay Routes
- Carpool/Operational Improvements on Bridge approaches
- Toll Plaza Improvements (FasTrak Utilization)



Alt 2 – Bay Bridge Corridor Rail

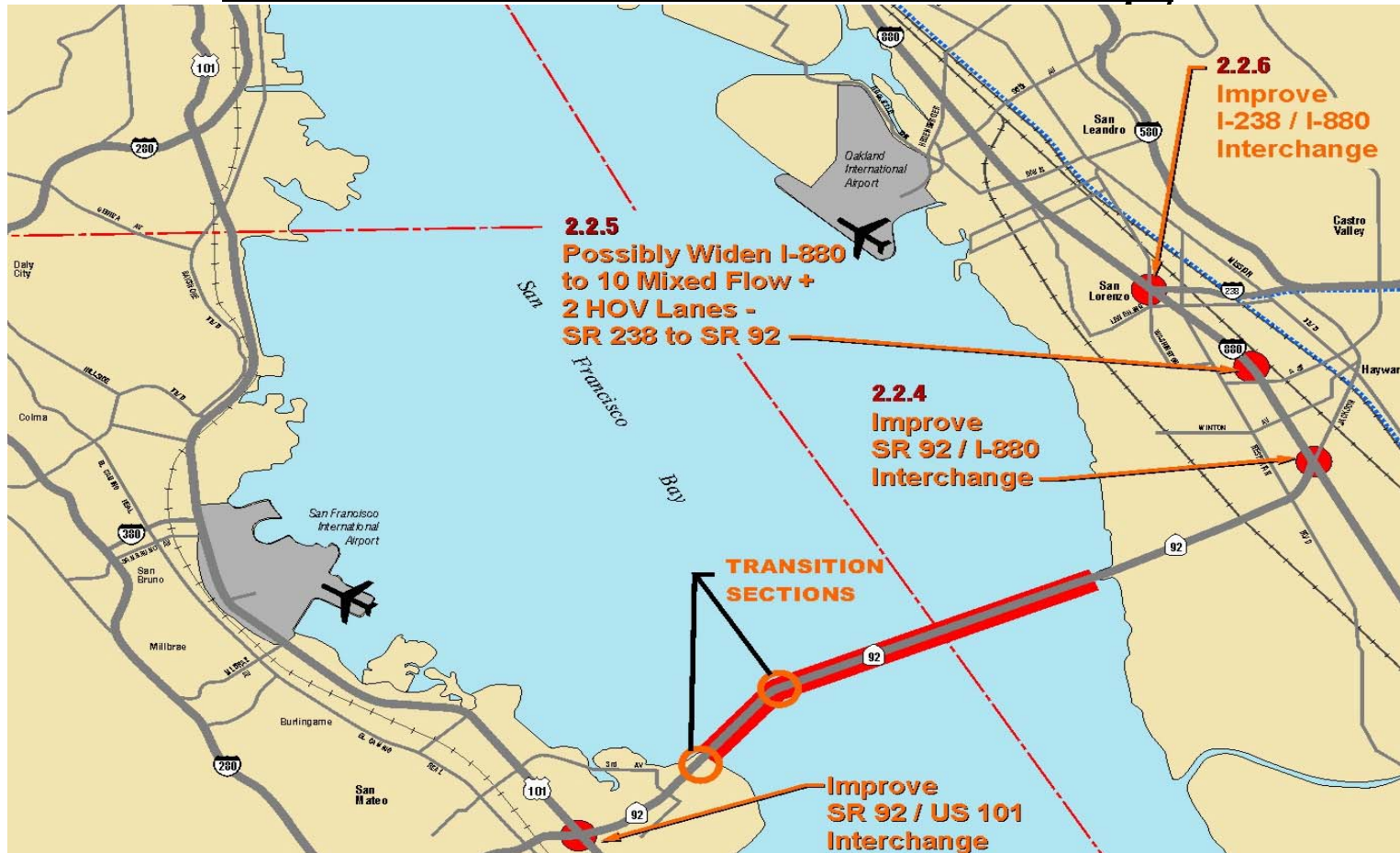


2000 San Francisco Bay



Crossings Study

Alt 3 – SMB Widening

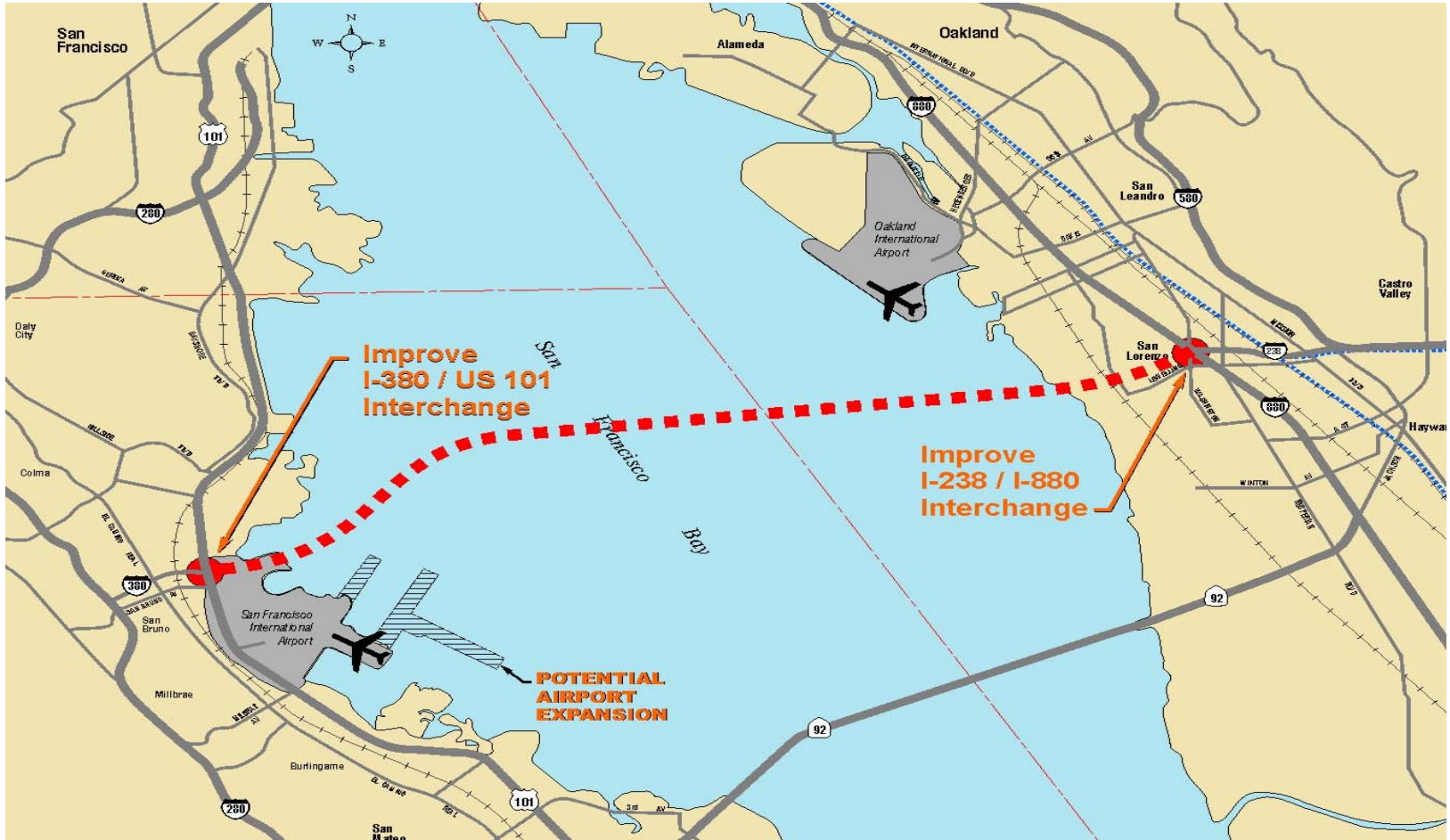


2000 San Francisco Bay



Crossings Study

Alt 4 – New Mid-Bay Bridge



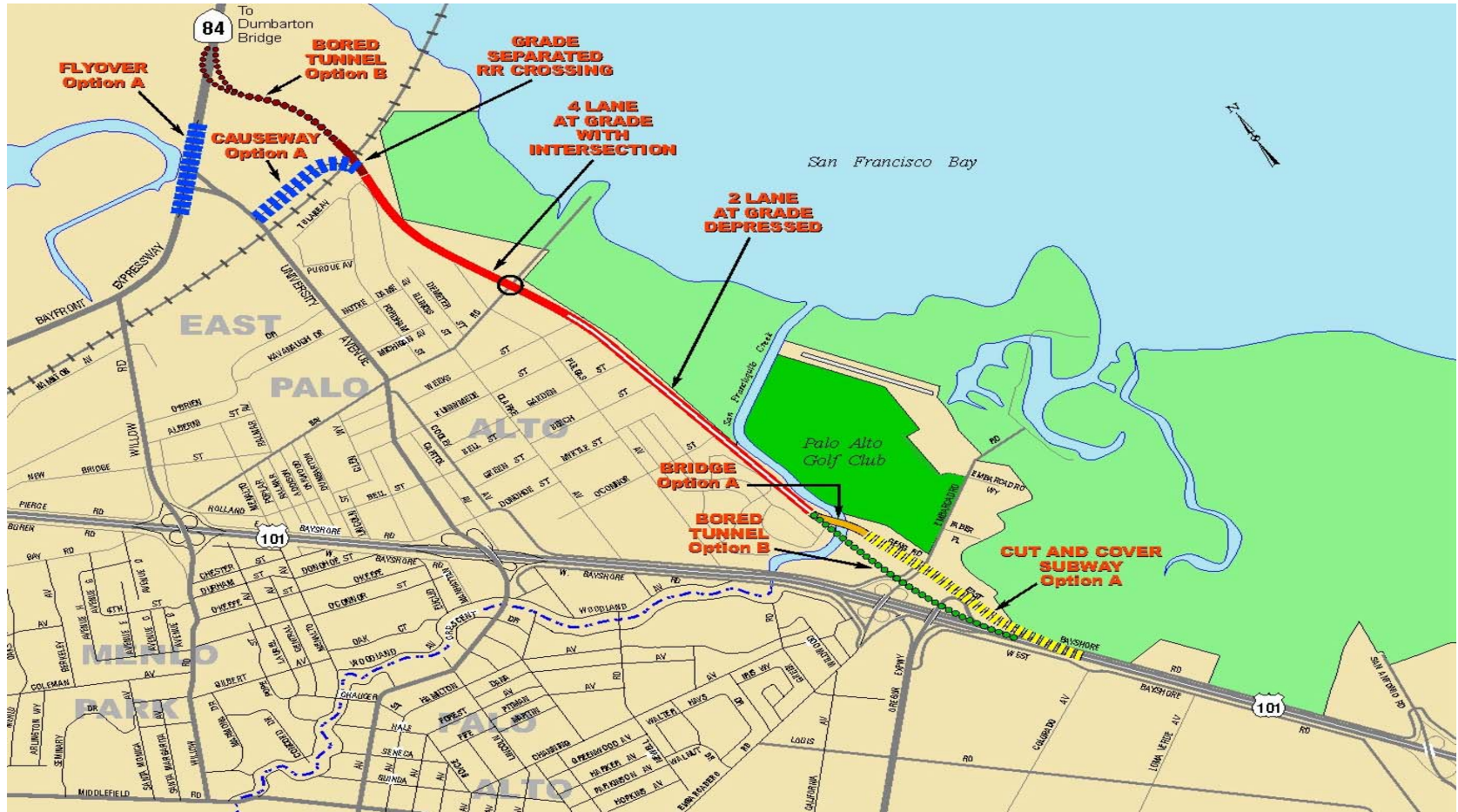
Alt 5 – Dumbarton Rail



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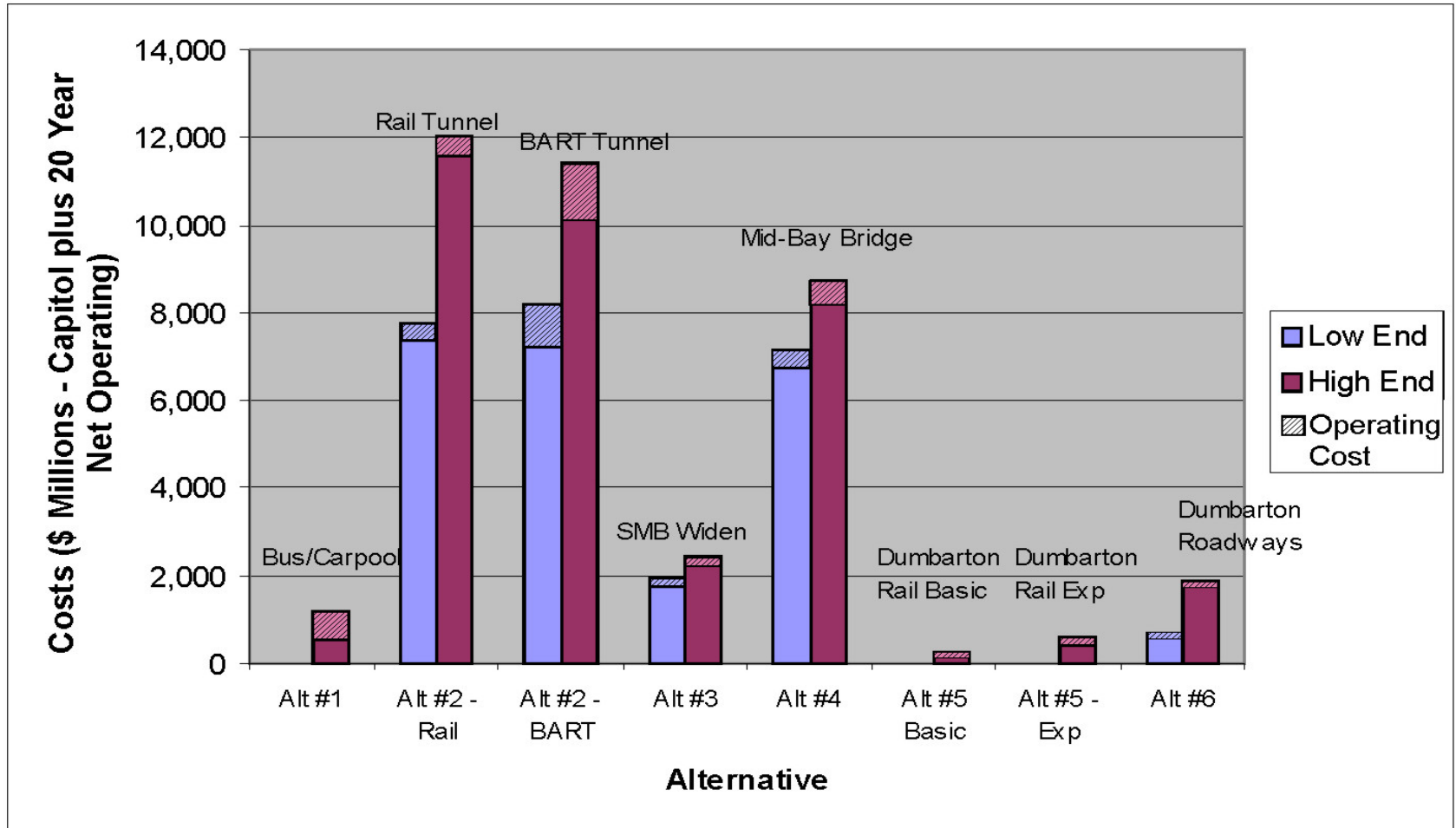


Crossings Study





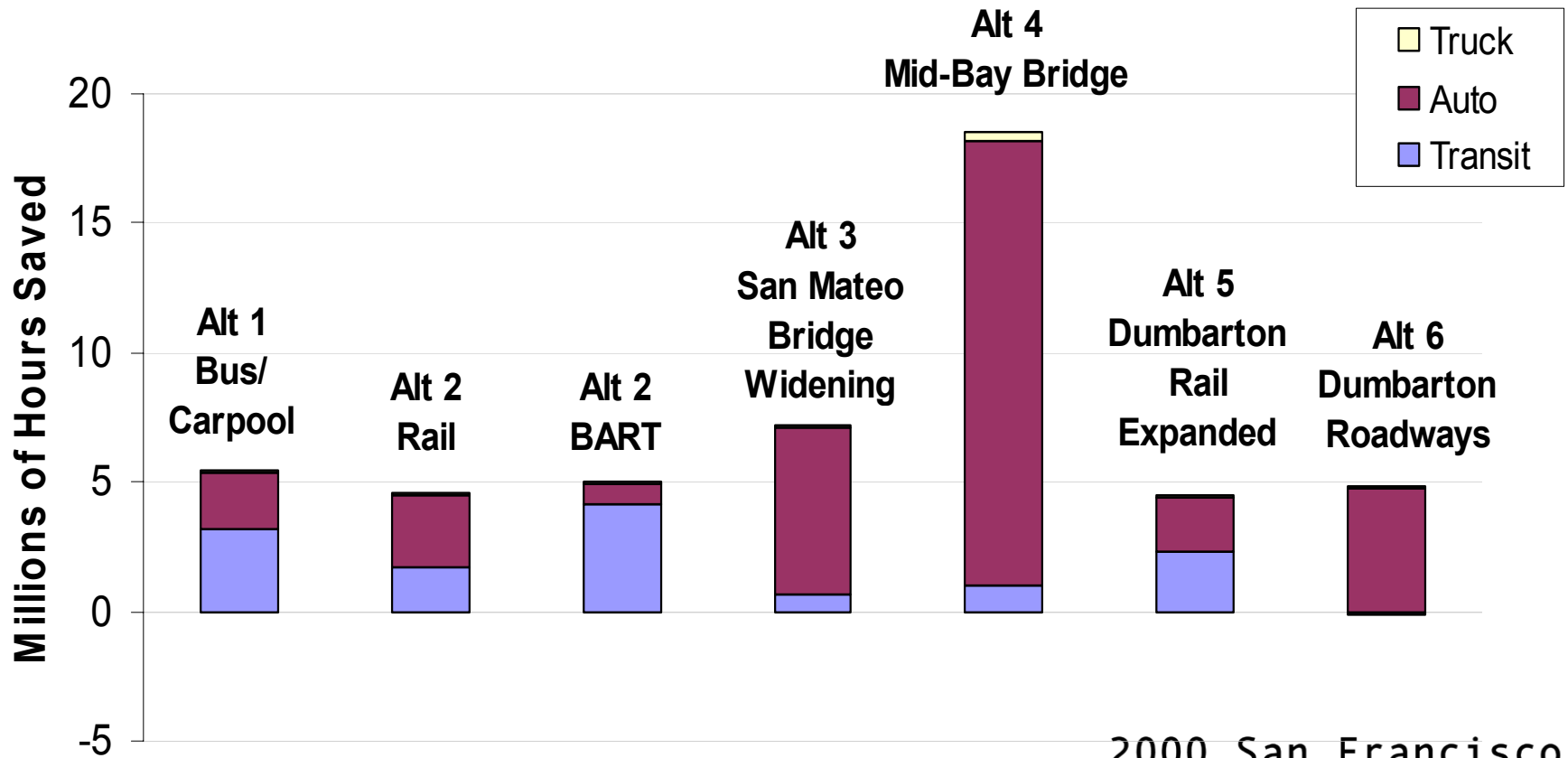
Costs by Alternative



- Alt 3 (SMB) Low End cost does not include widening I-880



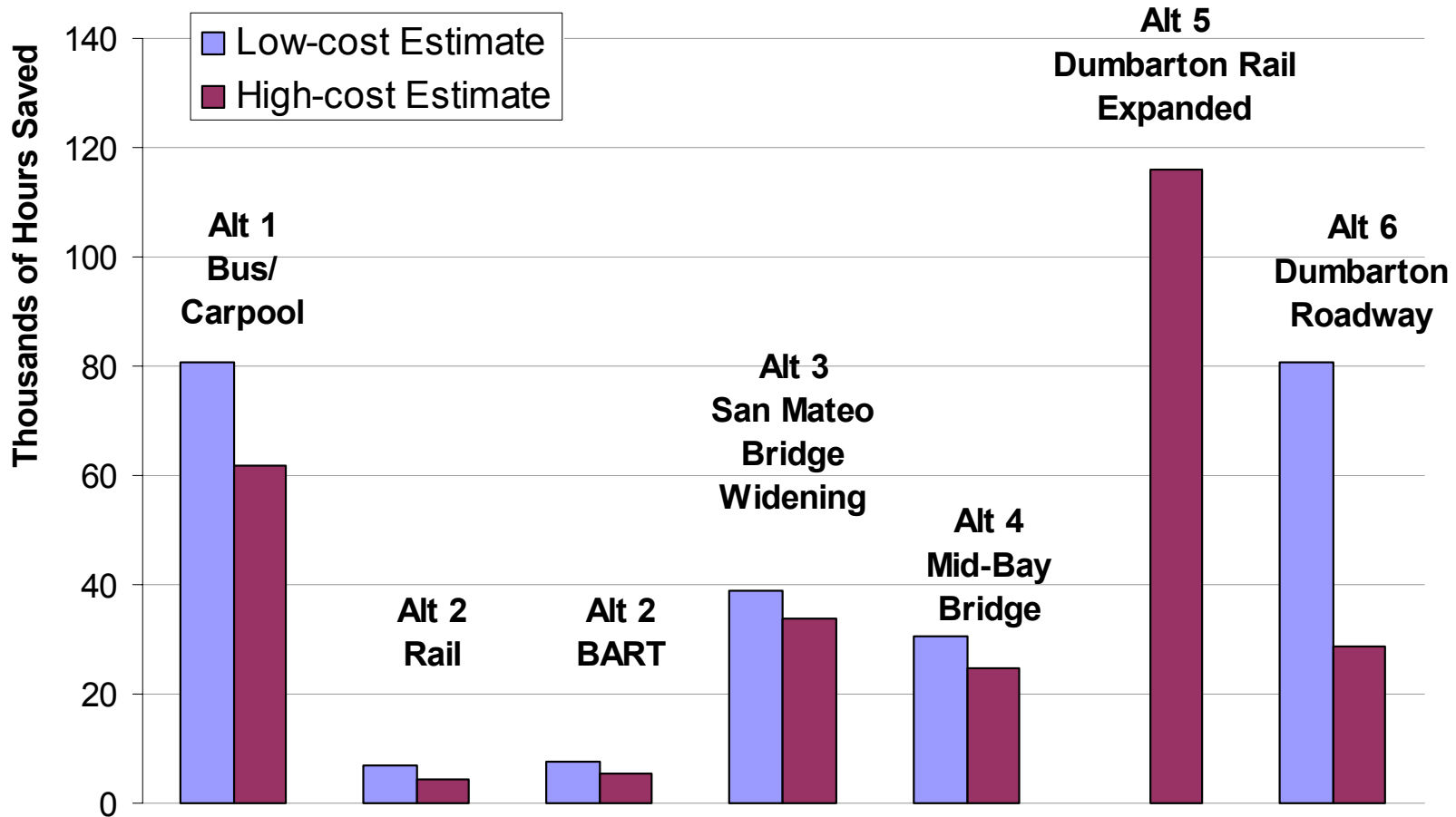
Annual Travel Time Savings (by Alternative, 2025)





Cost Effectiveness

(Annual Travel Time Savings per \$Million Annualized)



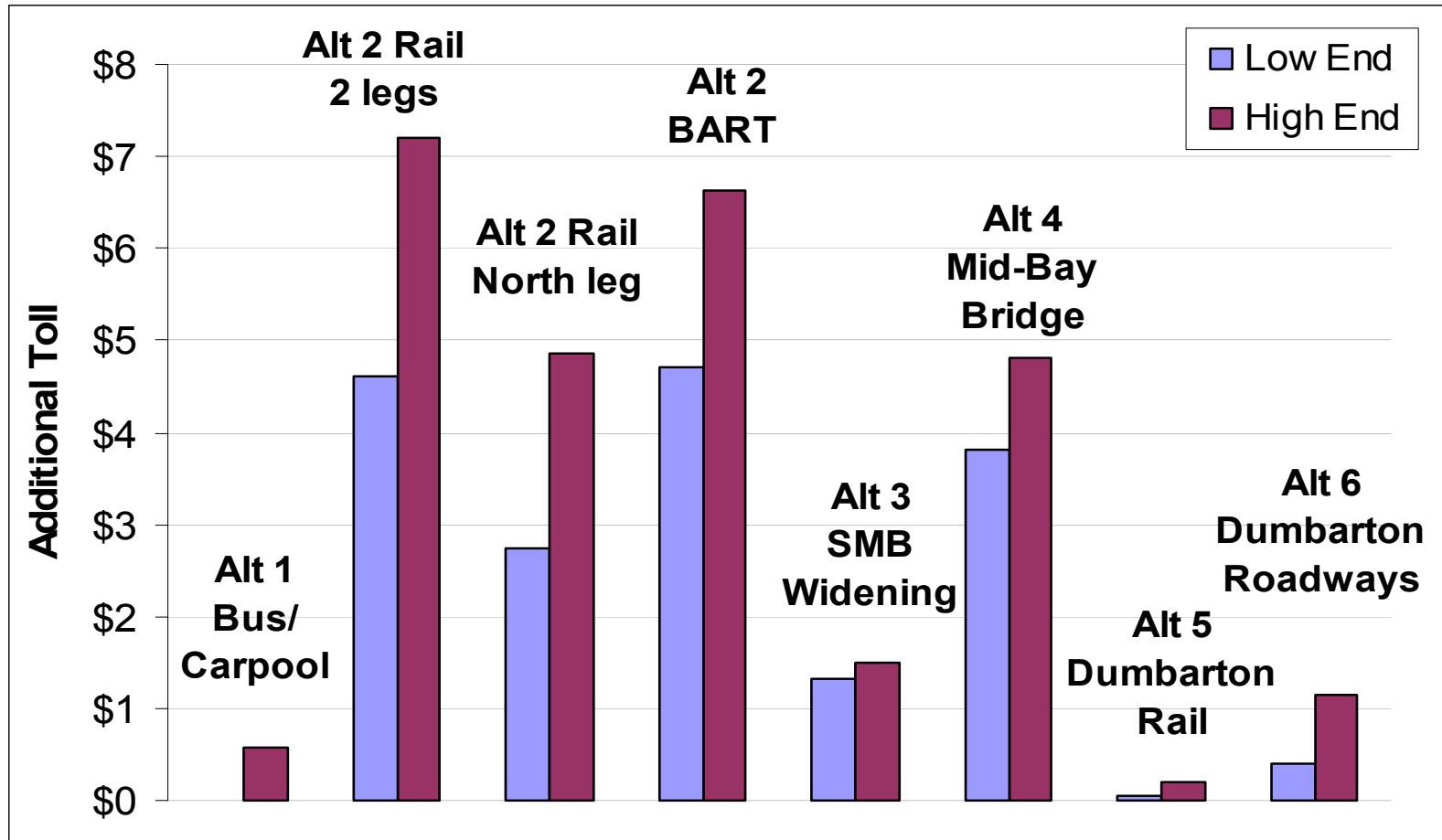
2000 San Francisco Bay



Crossings Study



Additional Toll for Bay Crossing Improvements

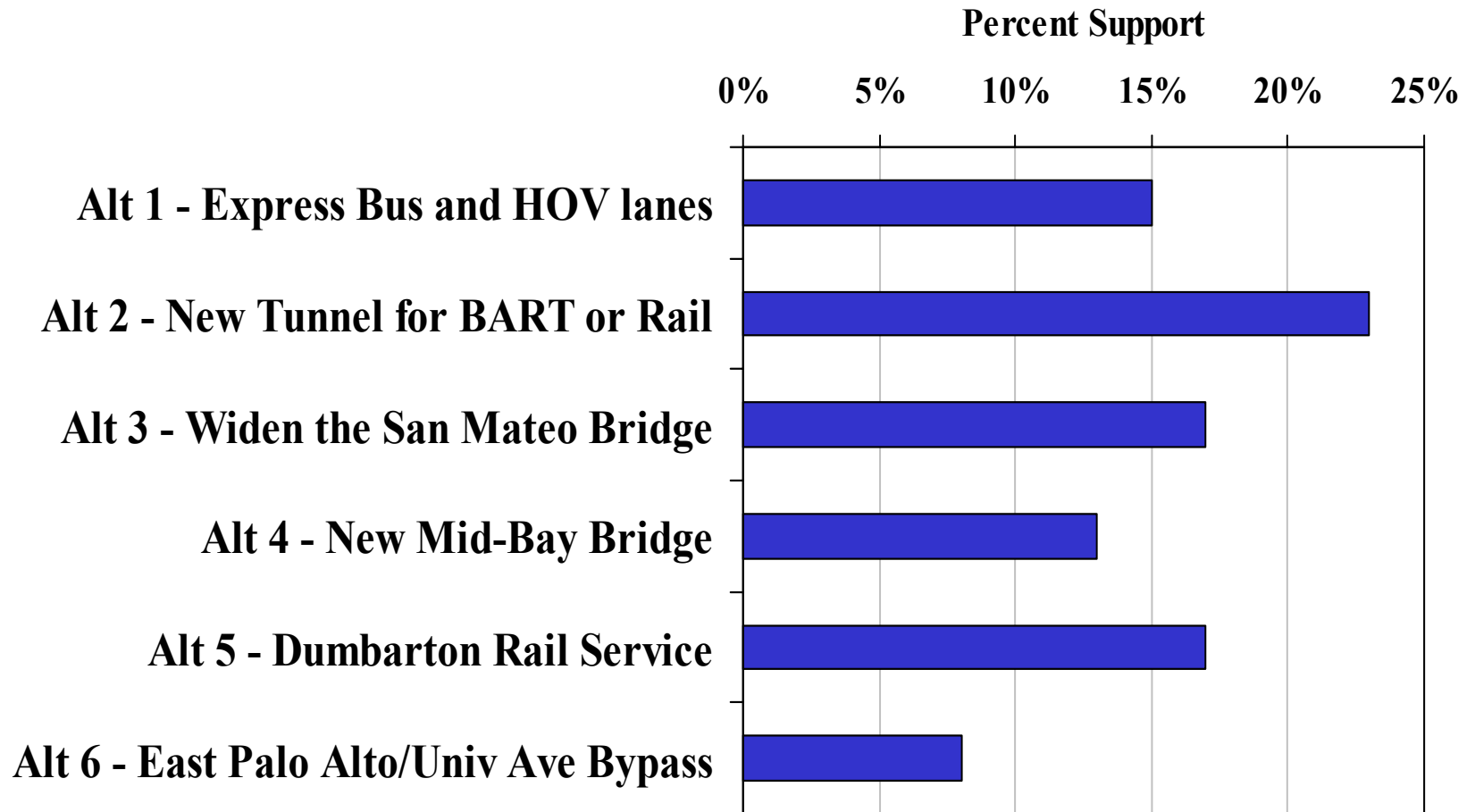


Note: Toll applies to all State owned Bay Area Bridges.

Toll increase would pay for capital and operating costs.



Preferred Alternative Region-Wide



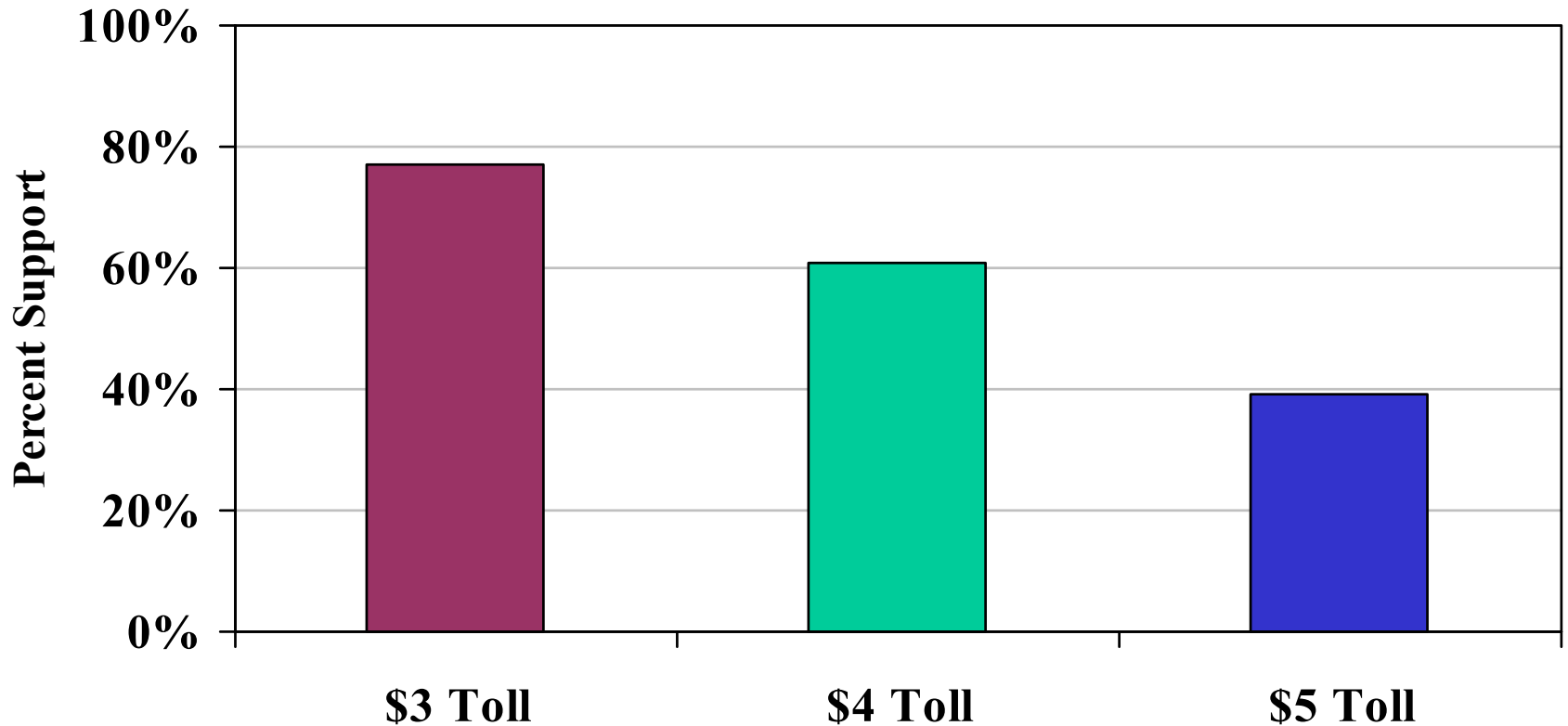
2000 San Francisco Bay



Crossings Study



Support for Increased Tolls To Pay for a New Bay Crossing





Recommendations



Near Term & Very Low Cost

- San Mateo Bridge
 - Express Bus Service
 - Extend FasTrak Approach Lane
- Dumbarton Bridge
 - Extend FasTrak Approach Lane
- Bay Bridge
 - I-80 WB Approach to Maritime off-ramp – Truck deceleration lane
 - I-880 NB HOV Approach Extension
 - Toll Plaza – Isolate left and right side HOV lane with pop-up cones
 - Downtown SF Casual Carpool Zone – Signage and Striping
 - San Francisco – HOV Lane Extension on 2nd Street
 - San Francisco – Signage and Striping on Sterling Street Ramp



Pursue Potential Toll Funding

(With Toll Amount, 30 Years)

- Reversible Lanes on San Mateo Bridge (\$.03)
- Dumbarton Rail Basic Service (\$.06)
- Carpool Lane Improvements (\$.15)
 - Lower Cost Improvements (\$.04)
 - Higher Cost Improvements (\$.11)
- Express Bus Expansion in All 3 Corridors (\$.27)
- BART Core Capacity Improvement (\$.15)



Further Study

- Reversible Lane on SMB (including 2+ HOV lane)
- Regional Rail Study
- BART Core Capacity Needs
- Project Study Reports for HOV Improvements
- Dumbarton Bridge/101 Corridor - Cooperative study by San Mateo and Santa Clara Counties (VTA, C/CAG, TA)
- Develop Detailed Express Bus Service Plan
- Taking a lane on Bay Bridge for 3+ HOV



Follow Up Items

- Add Hayward-San Mateo Bridge Widening to RTP Blueprint
- Support Regional Smart Growth Strategy
- Coordinate with Water Transit Authority
- Coordinate with High Speed Rail Authority